#### (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

# (19) World Intellectual Property Organization

International Bureau



### A DERIG BERREIT IN BERRIE BERREIT BEREIT BEREIT BERREIT BERREIT BERREIT BERREIT BERREIT BERREIT BERREIT BERREIT

(43) International Publication Date 20 October 2005 (20.10.2005)

PCT

## (10) International Publication Number WO 2005/099302 A1

(51) International Patent Classification7: H04R 1/22, 1/28

(21) International Application Number:

PCT/EP2005/002601

(22) International Filing Date: 10 March 2005 (10.03.2005)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 04388027.7 60/559,160

1 April 2004 (01.04.2004) EF 2 April 2004 (02.04.2004) US

(71) Applicant (for all designated States except US): SONY ERICSSON MOBILE COMMUNICATIONS AB [SE/SE]; S-221 88 Lund (SE).

(72) Inventors; and

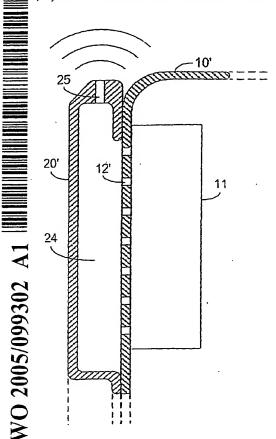
(75) Inventors/Applicants (for US only): ISBERG, Peter

[SE/SE]; Iliongranden 233, S-224 72 Lund (SE). HANS-SON, Magnus [SE/SE]; Ferievagen 22, S-224 67 Lund (SE).

- (74) Agent: ZACCO DENMARK A/S; Hans Bekkevolds Allé 7, DK-2900 Hellerup (DK).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD; GE, GH, GM, IIR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: A COMMUNICATIONS UNIT WITH ARRANGEMENT FOR LOUD REPRODUCTION OF SOUND



(57) Abstract: A clamshell phone with two movable housing parts and can assume a closed position, in which the sound openings are covered, and an open position, in which the sound openings are exposed. According to the invention the two housing parts, when in the closed position, define, together with the speaker transducer, a closed cavity with a tube connecting the cavity to the ambient air. This arrangement makes it possible for a communications unit to use the speaker transducer both for reproducing the speech from the teleconversation partner with high quality, and for generating a loud alerting signal and also for reproducing the speech from the teleconversation partner with a sound level that is high enough to be perceived by one or more listeners at a distance from the unit. The invention is useful in mobile phones, cordless and wired telephone handsets.

### WO 2005/099302 A1



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

#### Published:

- with international search report